

VAST.001PR

PROVISIONAL

**21 Abstract of the Disclosure**

The invention relates in general to methods of controlled mixing one fluid with another. In particular it relates to a distributed direct fluid contactor including arrays of streamlined perforated tubes distributed across a flow to efficiently contact and mix one or more fluids flowing through one or more tubes with a second fluid flowing across those tubes. These distributed contactors thereby mix the fluids in a substantially uniform fashion causing a prescribed uniformity or variation in the ratio of the first to second fluid across the space. This thereby to generally creates and controls the physical and/or chemical changes in those fluids, including evaporation, condensation, forming powders and conducting chemical reactions including combustion.

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